



**Communicable Disease and Epidemiology News**

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In the April 2001 issue:

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**Measles Outbreaks & Community Immunity**

The last measles case reported in King County to-date had a rash onset of February 26, and the outbreak now appears to be over. This outbreak illustrated the ability of measles virus introduced from abroad to cause outbreaks among under- and unimmunized persons in the community despite high immunization levels among school-aged children.

Measles immunity in the population varies by age group. Few persons born prior to 1957 reached age 20 without experiencing measles disease and resulting development of natural immunity. In general, children who are currently enrolled in King County public schools are also highly immune to measles. For the school year 1999-2000, 98.1% of students entering kindergarten or first grade and 95.5% of students entering sixth grade had received the recommended two doses of measles vaccine. The CDC-sponsored National Immunization Survey for July 1999 -June 2000, indicated that 90.5% of children 19-35 months of age had received at least one dose of measles vaccine.

Children were first offered measles vaccination in 1963, however live measles virus vaccines were not widely available until the late 1960's. In 1967, King County schools offered live measles immunization to students, however it was not until the implementation of the Washington state school immunization law in 1979 that students were required to show proof of measles immunity for school entry. Since then, documentation of at least one dose of measles vaccine and has consistently exceeded 90% for children beginning kindergarten, first grade, or transferring into Washington State schools.

On the other hand, students who were born after 1956, and who were enrolled in school prior to the adoption of the school immunization law in 1979, may never have been required to document their measles immunity. In addition, there are factors that could result in reduced measles immunity in this age cohort (who are now 27-44 years of age). These include: interference by circulating maternal antibody when live measles vaccine was given prior to the first birthday, the practice of administering live measles vaccine with immune globulin at the same time, and waning vaccine immunity among persons receiving only one dose of measles vaccine.

The epidemiology of the recent measles outbreak in King County highlights the susceptibility of young adults to measles infection. Measles was confirmed in five adults who were 29-39 years of age and who

represented 42% of the reported cases. None of the adult cases had written documentation of their measles immunization history. In addition, 83 staff members aged 23-58 years from two schools affected by the outbreak underwent serologic testing for measles as a result of disease control work at the schools. Six (7.2%) were seronegative for measles indicating no immunity to infection, and all were aged 35-39 years (a total of 22 staff in this age range were tested). Thus 27.3% of the adults aged 35-39 years tested in this setting were seronegative for measles.

The emphasis on maximizing measles immunity in the population is a result of the ability of measles virus to cause outbreaks by seeking out and infecting susceptible persons even within highly immunized populations. Travel related exposures to measles have been a typical occurrence during the last decade. During the recent outbreak two King cases were imported from exposures in Asia (Korea and China) including the index case related to one of two distinct clusters of cases.

Adults born after 1956 who work in health care facilities, who are college students, or who are international travelers have been recommended to have evidence of measles, measles immunity, or receipt of two measles immunizations for several years now. Evaluation of adult immunization history is difficult because most adults no longer have a written record for reference. For cases in which a young adult's measles vaccination history is uncertain, it is recommended that measles immunization be considered in order to both guarantee immunity and provide documentation of such to the patient.

**Flu Season Mildest in Four Years – Public Health Begins Year-round Flu Surveillance**

Despite a shortage of flu vaccine this fall, the CDC has reported that this flu season was the lightest in four years. According to the CDC, this may be due to a close match between the vaccine and the predominant strains of the flu.

Through March 24, there have been 90 culture-confirmed cases of influenza detected through the King County laboratory-based, influenza surveillance system [40 influenza A (H1N1) and 50 influenza B]. Peak occurrence of influenza activity occurred in mid-January through early February. There has been a decline in the number of specimen submissions to the Public Health Laboratory for influenza testing since mid-February, and no specimens have tested positive for influenza since March 16.

Of influenza isolates typed since October 1, 2000, by the U.S. World Health Organization and the National Respiratory and Enteric Virus Surveillance System, 58% were influenza type A, and 42% were influenza

type B. Of the influenza A virus isolates that have been subtyped, 96% were A (H1N1) and 4% were A (H3N2). Influenza B viruses have predominated this season (range 55-59%) in the Pacific and Mid-Atlantic regions while influenza A viruses predominated (range 55-68%) in the East South Central, West South Central, West North Central, South Atlantic, and East North Central regions. The New England and Mountain regions have reported approximately equal numbers of influenza A and influenza B isolates this season.

Of the 275 influenza A (H1N1) isolates that have been characterized by CDC since Oct. 1, 95% were similar to A/New Caledonia/20/99, the H1N1 component of the 2000-01 influenza vaccine, and 5% were similar A/Bayern/07/95. Although A/Bayern-like viruses are antigenically distinct from the A/New Caledonia-like viruses, the A/New Caledonia/20/99 vaccine strain produces high titers of antibody that cross-react with A/Bayern/07/95-like viruses. Of the influenza A (H3N2) viruses that have been characterized, all were antigenically similar to the vaccine strain A/Panama/2007/99. Of the influenza B viruses characterized, 16% were similar to the vaccine strain, B/Beijing/184/93, and 84% were more closely related antigenically to the B/Sichuan/379/99 reference strain. It should be noted that the B/Sichuan virus exhibits cross-reactivity with the vaccine strain.

Beginning this year, Public Health will continue to monitor influenza activity on a year-round basis. A group of “sentinel physicians” will continue to submit specimens of respiratory tract secretions for influenza culture for persons meeting a clinical case definition of influenza-like illness (ILI). Specimens will be tested by the Public Health - Seattle & King County laboratory in order to detect influenza activity and outbreaks outside of the usual “flu season” and provide an early warning system in the event of the appearance of a pandemic strain of influenza.

Health care providers who see persons meeting a clinical case definition of ILI with fever  $\geq 101^{\circ}\text{F}$  and

cough or sore throat are encouraged to submit specimens of nasopharyngeal or throat secretions to the Public Health laboratory. Influenza test kits can be obtained by calling the Public Health Laboratory at 206-731-8950.

Asian and Pacific Islander Hepatitis B Prevention Posters Are Available!

Hepatitis B prevention posters for the Asian and Pacific Islander audience are now available to order online. These **FREE** color posters, 11 x 17 inches, target the importance of hepatitis B vaccine among Asian and Pacific Islander children and are available in 7 languages. Each poster has a hepatitis B message in both English and one of the following languages: Chinese, Vietnamese, Laotian, Korean, Tagalog, Samoan, and Cambodian. Culturally appropriate graphics, photographs, and designs have been incorporated into these seven distinct posters. Native speakers and bilingual health care professionals have reviewed all seven translations. To order the posters, go to: <http://www.metrokc.gov/health/prevcont/apiposters.htm> or call Shelly McKeirnan at 206-296-4717.

**Disease Reporting (area code 206)**  
**AIDS.....296-4645**  
**Communicable Disease...296-4774**  
**STDs.....731-3954**  
**Tuberculosis.....731-4579**  
**24-hr Report Line.....296-4782**

**Hotlines:**  
**CD Hotline.....296-4949**  
**HIV/STD Hotline.....205-STDs**

<http://www.metrokc.gov/health>

Reported Cases of Selected Diseases Seattle-King County 2001

NR= Not reportable in 1999	Cases Reported In March		Cases Reported Through March	
	2001	2000	2001	2000
AIDS	13	15	95	45
Campylobacteriosis	20	25	66	64
Cryptosporidiosis	1	NR	5	NR
Chlamydial infections	317	468	988	1175
Enterohemorrhagic <i>E. coli</i> (non-O157)	0	NR	3	NR
<i>E. coli</i> O157: H7	1	2	3	2
Giardiasis	11	23	37	61
Gonorrhea	130	114	397	276
<i>Haemophilus influenzae B</i> (cases <6 years of age)	0	0	0	0
Hepatitis A	2	11	5	35
Hepatitis B (acute)	3	1	7	9
Hepatitis B (chronic)	65	NR	129	NR
Hepatitis C (acute)	1	1	3	1
Hepatitis C (chronic, confirmed/probable)	150	NR	353	NR
Hepatitis C (chronic, possible)	79	NR	137	NR
Herpes, genital	64	73	195	246
Measles	1	0	12	2
Meningococcal Disease	1	2	5	6
Mumps	0	0	0	2
Pertussis	1	20	2	49
Rubella, congenital	0	0	0	0
Rubella	0	0	0	0
Salmonellosis	18	13	55	46
Shigellosis	5	4	17	93
Syphilis, congenital	0	0	0	0
Syphilis, late	2	5	7	7
Syphilis	2	9	19	16
Tuberculosis	4	9	18	25